REMARKS

In the present Office Action the drawings were objected to as allegedly failing to comply with 37 C.F.R. § 1.84 because they did not include reference signs mentioned in the description. In accordance with the attached Revised Format procedures, the Applicants propose amending Figure 1 to add the reference characters W for a center winding device and 32a for an outer region of roll 32 as indicated on the attached drawing. Applicants respectfully submit that the addition of the reference characters W, 32a is supported by the originally filed application and drawings and does not add new matter.

Claims 21-33 were rejected in the present Office Action under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Independent Claim 21 has been suitably amended to obviate the Examiner's rejection under 35 U.S.C. § 112. Claim 21 as amended is supported by the originally filed application, adds no new matter, and is patentable over the cited references, alone or in combination. Applicants therefore respectfully request that the Examiner remove the rejection to Claim 21 and Claims 22-33 dependent thereon.

Claims 1, 2, 5, 7, and 9 were rejected in the Office Action under 35 U.S.C. § 102(b) as allegedly anticipated by Bichot et al. (U.S. Pat. No. 4,583,697)[1]; Claims 10-13, 17, 19, and 20 were rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Myren (U.S. Pat. No. 6,036,137); Claims 34, 35, 39, 40, and 43-45 were rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Sharma et al. (U.S. Pat. No. 4,573,402); Claim 3 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Bichot et al. in view of Moller et al. (U.S. Pat. No. 5,988,557); Claim 14 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over

[1] Bichot et al. was referenced in the Office Action as U.S. Pat. No. 4,583,687. The Applicants assume that U.S. Pat. No. 4,583,697 was the intended patent number and respectfully request clarification if necessary.

Myren in view of Moller; and Claim 41 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Sharma in view of Moller. Claims 4, 6, 8, 15, 16, 18, 36-38, and 42 were rejected to as being dependent upon a rejected base claim, but deemed allowable by the Examiner if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

In this Amendment, Applicants have amended Claim 21 as detailed above and added new independent Claims 46-50. Therefore, Claims 1-50 are pending, of which Claims 1, 10, 21, 34 and 46-50 are independent claims, and Claims 4, 6, 8, 15, 16, 18, 36-38, and 42 have been indicated by the Examiner as allowable.

Applicants respectfully traverse the rejection of Independent Claim 1 under 35 U.S.C. § 102(b) as allegedly anticipated by Bichot et al. for the following reasons. Claim 1 recites a method for increasing caliper control of a fibrous web as the web is wound onto a roll, the method comprising the steps of: winding a fibrous web onto a roll to form a wound product, the web containing cellulosic fiber; conveying the web through a nip prior to winding the web onto the roll, the nip applying a pressure to the web, the nip being configured to selectively decrease the caliper of the web by increasing the pressure of the nip; applying the pressure as the web is wound onto the roll to influence caliper of the fibrous web; and adjusting the pressure applied to the web by the nip as the web is wound onto the roll wherein the nip pressure is increased as the diameter of the wound product is increased in order to compensate for caliper reduction in the web as the diameter of the wound product increases. The cited reference does not include each and every element as claimed by Claim 1. In contrast, Bichot et al. is directed to a known metered winding principle in which pressure rollers are incrementally moved away as a roll diameter builds, but the cited reference does not teach selective control of web caliper. See col. 6, line 47 et seq. of Bichot et al.

Specifically, Bichot et al. is concerned with winding of a felt or fiberglass web unto itself (without the use of a core). The length of felt material, for instance, wound into a roll is relatively much shorter compared to paper or tissue rolls; so, the felt material does not make sufficient numbers of wraps around itself from the length (tangential) direction to accumulate and generate a sufficiently large differential inter-layer compressive pressure in the radial direction by the material itself to cause sufficient permanent caliper reduction and difference between materials wound in the inner and outer regions of the roll (i.e., no "capstan effect" is generated via wound-in tension).

The method described in Bichot et al. in which the pressure roll is continuously moved away from the building roll based on the sensed caliper of the incoming web and its length is commonly known in the art as the metered winding process wherein the pressure roll is moved away incrementally to provide space that the sensed in-coming caliper would occupy as it is added to the building roll. Bichot et al., however, does not calculate additional caliper loss due to the higher compressive stress on the web near the center compared to those in the outer region of a roll. The cited reference teaches only caliper reduction of the web relative to its location from the starting length in a predetermined or empirical manner.

Further, the "kraft" or "film" in the disclosure of Bichot et al. refers to the backing layers that are sometimes included on one surface of the referenced felt, in some instances as vapor barrier or in other instances as carrier web. These kraft or film liners generally possess much higher tensile modulus relative to the felt or fiberglass material in the cited reference and can maintain a much higher wound-in tension to begin to generate sufficient radial compressive pressure to affect caliper uniformity of the felt or fiberglass web, but not on the caliper of the "kraft" or "film" liner. Thus, the cited reference does not teach a winding method that is effective in controlling caliper of the kraft or film liner itself, as these would require much higher compressive pressure for caliper reduction. Thus, Bichot et al. is not analogous to cellulosic

fiber web winding, does not teach the precision nor degree of caliper control presently claimed by Claim 1, and lacks each and every element of Claim 1. Therefore, Applicants respectfully request that the Examiner remove the rejection to Claim 1 and indicate the allowability of Claim 1 and Claims 2-9 dependent thereon.

Applicants respectfully traverse the rejection of independent Claim 10 under 35 U.S.C. § 102(b) as allegedly anticipated by Myren for the following reasons. Claim 10 recites a method for increasing caliper control of a tissue the method comprising the steps of providing a tissue having a first side and a second side, the tissue to be wound onto a roll; controlling a pressure that a calendering device applies to the tissue in such a manner that the pressure increases uniformity of caliper of the tissue being wound onto the roll from a core region of the roll to an outer region of the roll; applying the pressure to at least one of the sides of the tissue with the calendaring device; and winding the tissue onto the roll after the pressure is applied to the tissue by the calendering device. Myren does not disclose each and every element of Claim 10.

The cited reference in contrast to Claim 10 attempts to improve control of caliper uniformity on a hard nip reel by controlling the indentation of the building roll at the nip formed between it and the winding drum or cylinder. This method has been shown to be insufficient for soft tissue roll winding, and by extension, even for conventional harder tissue or paper for the same reasons as explained above with respect to Bichot et al. Therefore, Applicants respectfully submit that Claim 10 is substantially different from Myren, is patentable over the cited reference, and respectfully request the Examiner remove the rejection and indicate the allowability of pending Claim 10 and Claims 11-20 dependent thereon.

Applicants respectfully traverse the rejection of Independent Claim 34 under 35 U.S.C. § 102(b) as allegedly anticipated by Sharma for the following reasons. Claim 34 recites in pertinent part an apparatus for controlling the caliper of a tissue, the apparatus comprising a set of calender rollers forming a nip, and a setting device configured with the calender rollers, the

setting device permitting control of the pressure created by the calender rollers on the tissue in such a manner that the pressure increases uniformity of caliper of the tissue being wound onto the roll from a core region of the roll to an outer region of the roll. Applicants respectfully submit that the cited reference does not disclose or suggest the subject matter of Claim 34.

Sharma et al. is generally directed to controlling a caliper of a web of material by locally heating and cooling pressure rolls by a combination of convective, radiant, and impingement heat transfer. Col. 2, lines 15-22. The combination of impingement, convective, and radiant heating provides localized heating of the calender roll. Localized cooling of the calender roll is provided by unheated air passing through discharge openings where the heating elements are not energized. Col. 4, lines 28-32. Thus, Sharma et al. teaches caliper expansion by heating and caliper contraction by cooling, which is substantially different from the elements of present Claim 34.

Further, the device as taught by Sharma et al. has been in use widely on paper machine calenders for correcting cross-direction (CD) caliper non-uniformity by using a scanning type caliper sensor, and selectively heating narrow bands on the calender roll to modify the local calender roll diameter, and thus, to modify the nip pressure at that specific location. The sensor usually senses the caliper profile along the cross direction as web emerges from the calender nip. The devices of the cited reference can not control the average profile across the web, which depends on the overall nip loading from the calender loading device usually applied from both roll bearing ends. Sharma et al. does not relate the radial location of the web in a building roll, and therefore, the cited reference does not address the effect of the interlayer compressive pressure differential between that applied to the material near the core and those near the outside diameter. Thus, Applicants respectfully submit that Claim 34 is substantially different from Sharma et al. and therefore patentable over the cited reference. Applicants further respectfully

request that the Examiner remove the rejection to Claim 34 and indicate the allowability of Claims 34-45.

New Independent Claim 46 essentially claims the subject matter of allowable Claim 6. Applicants therefore respectfully submit that Claim 46 is patentable over the cited references and adds no new matter requiring a new search by the Examiner. Thus, Applicants respectfully request that the Examiner indicate the allowability of Claim 46.

New independent Claim 47 essentially claims the subject matter of allowable Claim 4. Therefore, Applicants respectfully submit that Claim 47 adds no new matter requiring a new search by the Examiner and Applicants respectfully request that the Examiner indicate the allowability of Claim 47.

New Independent Claim 48 essentially claims the subject matter of allowable Claim 16. Applicants therefore respectfully submit that Claim 48 is patentable over the cited references and adds no new matter requiring a new search by the Examiner. Thus, Applicants respectfully request that the Examiner indicate the allowability of Claim 48.

New Independent Claim 49 essentially claims the subject matter of allowable Claim 15. Therefore, Applicants respectfully submit that Claim 49 adds no new matter requiring a new search by the Examiner and Applicants respectfully request the Examiner indicate the allowability of Claim 49.

New Independent Claim 50 essentially claims the subject matter of allowable Claim 36. Applicants therefore respectfully submit that Claim 50 is patentable over the cited references and adds no new matter requiring a new search by the Examiner. Thus, Applicants respectfully request that the Examiner indicate the allowability of Claim 50.

Applicants respectfully submit that the present Amendment distinguishes over the cited references and that the present application is in condition for allowance. Accordingly, Applicants respectfully request that the Examiner indicate the allowability of pending Claims 1-

50, Claims 4, 6, 8, 15, 16, 18, 36-38, and 42 having already been deemed allowable in the Office Action.

If the Examiner has any questions upon consideration of this Amendment, Applicants invite the Examiner to contact the undersigned at the number appearing below.

Respectfully submitted,

DORITY & MANNING, P.A.

6-3-03
Date

Bernard S. Klosowski
Reg. No. 47,710

P.O. Box 1449
Greenville, SC 29602-1449
(864) 271-1592
FAX (864) 233-7342